

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
**WO 2005/017140 A1**

(51) International Patent Classification<sup>7</sup>: C12N 9/88

Gurdon Institute, Tennis Court Road, Cambridge, Cambridgeshire CB2 1QR (GB).

(21) International Application Number:  
PCT/GB2004/003349

(74) Agents: SUTCLIFFE, Nicholas et al.; Mewburn Ellis LLP, York House, 23 Kingsway, London, Greater London WC2B 6HP (GB).

(22) International Filing Date: 2 August 2004 (02.08.2004)

(25) Filing Language: English

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:  
60/494,088 12 August 2003 (12.08.2003) US

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): CAMBRIDGE UNIVERSITY TECHNICAL SERVICES LIMITED [GB/GB]; The Old Schools, Trinity Lane, Cambridge, Cambridgeshire CB2 1TS (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): DOHERTY, Aidan [IE/GB]; University of Cambridge Structural Medicine Unit, Cambridge Institute for Medical Research, Hills Road, Cambridge, Cambridgeshire CB2 2XY (GB). DELLA, Marina [GR/GB]; University of Cambridge Structural Medicine Unit, Cambridge Institute for Medical Research, Hills Road, Cambridge, Cambridgeshire CB2 2XY (GB). WELLER, Geoffrey [GB/GB]; University of Cambridge Structural Medicine Unit, Cambridge Institute for Medical Research, Hills Road, Cambridge, Cambridgeshire CB2 2XY (GB). JACKSON, Stephen [GB/GB]; The Wellcome Trust/ Cancer Research UK

**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: PROKARYOTIC DNA REPAIR LIGASES

(57) Abstract: The present invention relates to the cloning and characterisation of a prokaryotic DNA repair ligase, which is shown to possess a range of activities that allow the ligation and repair of non-compatible DNA ends and double strand breaks (DSBs). The enzyme has a range of applications in the manipulation and cloning of nucleic acids.

WO 2005/017140 A1